

Meterman

Operator's Manual

Model DM73B

Pen Style
Digital Multimeter



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Digital Multimeter/MultiTester

WARRANTY

The DM73B Digital Multimeter is warranted against any defects of material or workmanship within a period of one (1) year following the date of purchase of the multimeter by the original purchaser or original user. Any multimeter claimed to be defective during the warranty period should be returned with proof of purchase to an authorized Meterman Test Tools Service Center or to the local Meterman Test Tools dealer or distributor where your multimeter was purchased. See maintenance section for details. Any implied warranties arising out of the sale of a Meterman Test Tools multimeter, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the above stated one (1) year period. Meterman Test Tools shall not be liable for loss of use of the multimeter or other incidental or consequential damages, expenses, or economical loss or for any claim or claims for such damage, expenses or economical loss. Some states do not allow limitations on how long implied warranties last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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CERTIFICATIONS AND PRECAUTIONS

- The DM73B instrument is UL, cUL, and EN61010-1 certified for Installation Category II – 600V. It is recommended for use with local level power distribution, appliances, portable equipment, etc, where only smaller transient overvoltages may occur, and not for primary supply lines, overhead lines and cable systems. ■ Do not exceed the

maximum overload limits per function (see specifications) nor the limits marked on the instrument itself. Never apply more than 600VDC between the test lead and earth ground. ■ Exercise extreme caution when: measuring voltage >20V // servicing CRT equipment. ■ Inspect DMM, test leads and accessories before every use. Do not use any damaged part. ■ Never ground yourself when taking measurements. Do not touch exposed circuit elements or probe tips. ■ Do not operate instrument in an explosive atmosphere.

EXPLANATION OF SYMBOLS

	DANGER High Voltage		Direct Current
	ATTENTION Refer to Manual		Alternating Current
	This Instrument has double insulation		Protective Conductor Terminal

INTRODUCTION

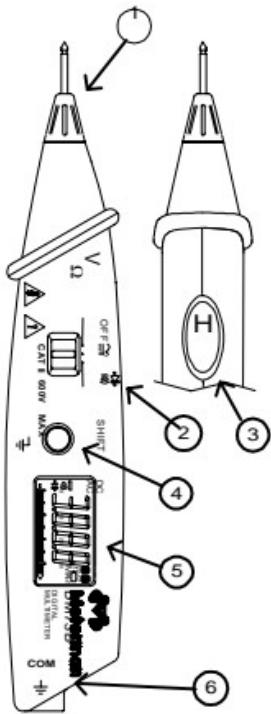
The DM73B is a probe-type digital multimeter capable of measuring DC and AC voltage, resistance, diode and continuity. Its controls are: Volts (V), Ohms (Ω), Diode Test and Continuity Beeper (beep), On- Off, AC/ DC and Hold. (See page 3) 1. V - Ω input. 2. Function selector. 3. HOLD button. 4. SHIFT button for AC / DC or Diode /Continuity. 5. LCD Display. 6. COM input.

MEASURING PROCEDURES

Note: When connecting or disconnecting test leads to or from a circuit, always first turn off power to the circuit under test and discharge all capacitors.

DC / AC Voltage Measurement

Set the Function switch to "V". Select AC or DC by pressing the mode selector button (AC or DC is displayed). Connect the instrument to the circuit and read the measured voltage in the display.



Resistance Measurement

Set the Function switch to " Ω ". Connect the instrument across the resistance and read the value in the display. When measuring high resistance values, take care not to touch the test leads.

Continuity Measurement

Set the Function switch to Ω . Press the mode selector button once, so that appears (BEEPER) in the LCD. Connect the instrument across the device or wire to be tested. Beeper will sound when continuity is established. The beeper also sounds when changing functions, modes, or for Probe Hold.

Diode Measurement

Set the Function switch to Ω . Press the mode selector button twice, so that appears (DIODE) in the LCD. Connect the instrument across the device to be tested. The forward voltage drop of a good diode is about 0.6V. An open or reverse biased diode will read "OL".

Data Hold

Push the HOLD button to "freeze" the measurement reading and then remove the test leads while the reading remains displayed. HOLD is useful when it is necessary to pay very close attention to your work. Pushing the HOLD button again releases the display.

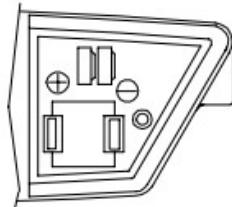
Automatic Shutdown

This function causes the meter to enter power saving mode after approximately 10 minutes. Disable automatic shutdown by holding the shift button down while turning the meter on.

MAINTENANCE

In Case of Difficulties In the case of improper operation of the meter, first review the operating instructions for possible errors in operation. Inspect and check test leads for continuity. Check the condition of the batteries. The battery “+” symbol appears when the voltage falls below the level where accuracy is guaranteed. Replace batteries immediately.

Battery Replacement



Warning: In order to avoid electrical shock, remove the test lead before opening the case. To replace the batteries (2 - LR44) unscrew the battery hatch screw and remove the old batteries. Install the new batteries observing the diagram in the battery area.

Cleaning Procedure

Gently wipe dirt from the surface of the unit with a soft cloth moistened with a small amount of water or neutral cleanser. Do not use benzene, alcohol, acetone, ether, paint thinner, lacquer or ketone solvents on the units, under any circumstances as these may cause deformation or discoloration.

General Specifications

Display: 3- 3/4 digit LCD, 3400 count

Measuring rate: 2.5/ second nominal

Bargraph: 34 segments – updated 20 readings per second

Operating Temp. range: 0 to 40° C, 80% RH

Storage Temp. range: -20 to 60° C, 70% RH

Environmental: Intended for Indoor use, Altitude up to 2000 m.

Measurement Accuracy: $\pm 0.1/ C^\circ$

Batteries: 2x LR44, SR44 or S76

Life: 100 hours nominal

Auto Power Off: after 10 minutes

Dimension: 7.8" x 1.1" x 1.4"

Weight: .21 lb.

Accessories: Operating manual, test lead with alligator clip, 2 batteries (installed), spare tip.

Approvals: Safety consideration for UK: do not measure electrical

mains supply.

Safety: Conforms to EN61010- 1: Cat II - 600V; CAT III - 300V , Class 2, Pollution degree II; UL3111-1. EMC: Conforms to EN61326



This product complies with requirements of the following European Community Directives: 89/ 336/ EEC (Electromagnetic Compatibility) and 73/ 23/ EEC (Low Voltage) as amended by 93/ 68/ EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

Electrical Specifications

Accuracy at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$, < 75 % RH, guaranteed for one year.

DC Volts

Ranges: 340mV, 3.4, 34, 340V, 600V

Accuracy: $\pm (0.5\% \text{ rdg} + 2 \text{ dgt})$

Input Impedance: 340 mV range: $>100\text{M}\Omega$, other ranges: $10\text{M}\Omega$

Protection: 600VDC or AC rms

AC Volts

Ranges: 3.4V, 34, 340, 600V

Accuracy: $\pm (1.5 \% \text{ rdg} + 8 \text{ dgt}) (50 - 500\text{Hz})$

Input Impedance: $10\text{M}\Omega$

Protection: 600VDC or AC rms.

Resistance

Ranges: 340Ω , 3.4, 34, $340 \text{ k}\Omega$, 3.4, 34 $\text{M}\Omega$

Accuracy:

$340\Omega - 340\text{k}\Omega: \pm (1.0 \% \text{ rdg} + 4 \text{ dgt})$

$3.4\text{M}\Omega: \pm (1.5 \% \text{ rdg} + 4 \text{ dgt})$

$34 \text{ M}\Omega: \pm (3.0 \% \text{ rdg} + 5 \text{ dgt})$

Max. open circuit voltage: 340Ω range - 1.2V; all others: - 0.45V

Protection: 500VAC or DC.

Range: 3.4V

Accuracy: $\pm (2.0\% \text{rdg} + 3 \text{ dgt})$

Resolution: 0.1mV in 3.4V range

Short circuit current: 1.0mA

Max open circuit voltage: 3.0VDC

Audible indication: < 0.2V

Overload prot.: 500VDC or AC rms

Continuity

Display response: <0.5s

Continuity threshold: $\leq 30 \Omega$

Overload prot.: 500VDC or AC rms

Accessories / User Replaceable Parts

TL73B Test lead with alligator clip

VC11 Vinyl Case

TP73B Replaceable Probe tip

Battery Type SR44, LR44, or S76